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1
ATTORNEY DOCKET NO. 06027.0002U2

SEQUENCE LISTING

<110> Alan Brash
Nathalie Tijet

<120> MUSKMELON (CUCUMIS MELO) HYDROPEROXIDE
LYASE AND USES THEREOF

<130> 06027.0002U2

<140> 09/884,260

<141> 2001-06-19

<150> 09/,537,357

<151> 2000-03-29

<160> 56

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 10

<212> PRT

<213> Cucumis melo

<400> 1

Met Ala Thr Pro Ser Ser Ser Ser Pro Glu
1 5 10

<210> 2

<211> 15

<212> PRT

<213> Cucumis melo

<400> 2

Ile Leu Phe Asp Thr Ala Lys Val Glu Lys Arg Asn Ile Leu Asp
1 5 10 15

<210> 3

<211> 8

<212> PRT

<213> Cucumis melo

<400> 3

Arg Leu Phe Leu Ser Phe Leu Ala
1 5

<210> 4

<211> 7

<212> PRT

<213> Cucumis melo

<400> 4

Ser Ile Ser Asp Ser Met Ser
1 5

<210> 5

<211> 8
 <212> PRT
 <213> Cucumis melo

<400> 5
 Leu Leu Ser Asp Gly Thr Pro Asp
 1 5

<210> 6
 <211> 10
 <212> PRT
 <213> Cucumis melo

<400> 6
 Ile Phe Ser Val Phe Glu Asp Leu Val Ile
 1 5 10

<210> 7
 <211> 481
 <212> PRT
 <213> Cucumis melo

<400> 7
 Met Ala Thr Pro Ser Ser Ser Ser Pro Glu Leu Pro Leu Lys Pro Ile
 1 5 10 15
 Pro Gly Gly Tyr Gly Phe Pro Phe Leu Gly Pro Ile Lys Asp Arg Tyr
 20 25 30
 Asp Tyr Phe Tyr Phe Gln Gly Arg Asp Glu Phe Phe Arg Ser Arg Ile
 35 40 45
 Thr Lys Tyr Asn Ser Thr Val Phe Arg Ala Asn Met Pro Pro Gly Pro
 50 55 60
 Phe Ile Ser Ser Asp Ser Arg Val Val Val Leu Leu Asp Ala Leu Ser
 65 70 75 80
 Phe Pro Ile Leu Phe Asp Thr Ala Lys Val Glu Lys Arg Asn Ile Leu
 85 90 95
 Asp Gly Thr Tyr Met Pro Ser Leu Ser Phe Thr Gly Asn Ile Arg Thr
 100 105 110
 Cys Ala Tyr Leu Asp Pro Ser Glu Thr Glu His Ser Val Leu Lys Arg
 115 120 125
 Leu Phe Leu Ser Phe Leu Ala Ser Arg His Asp Arg Phe Ile Pro Leu
 130 135 140
 Phe Arg Ser Ser Leu Ser Glu Met Phe Val Lys Leu Glu Asp Lys Leu
 145 150 155 160
 Ser Glu Lys Lys Lys Ile Ala Asp Phe Asn Ser Ile Ser Asp Ser Met
 165 170 175
 Ser Phe Asp Tyr Val Phe Arg Leu Leu Ser Asp Gly Thr Pro Asp Ser
 180 185 190
 Lys Leu Ala Ala Glu Gly Pro Gly Met Phe Asp Leu Trp Leu Val Phe
 195 200 205
 Gln Leu Ala Pro Leu Ala Ser Ile Gly Leu Pro Lys Ile Phe Ser Val
 210 215 220
 Phe Glu Asp Leu Val Ile His Thr Ile Pro Leu Pro Phe Phe Pro Val
 225 230 235 240
 Lys Ser Gly Tyr Arg Lys Leu Tyr Glu Ala Phe Tyr Ser Ser Ser Gly
 245 250 255
 Ser Phe Leu Asp Glu Ala Glu Lys Gln Gly Ile Asp Arg Glu Lys Ala
 260 265 270
 Cys His Asn Leu Val Phe Leu Ala Gly Phe Asn Ala Tyr Gly Gly Met
 275 280 285
 Lys Val Leu Phe Pro Thr Leu Leu Lys Trp Val Gly Thr Ala Gly Glu
 290 295 300

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Asp Leu His Arg Lys Leu Ala Glu Glu Val Arg Thr Thr Val Lys Glu
305 310 315 320
Glu Gly Gly Leu Thr Phe Ser Ala Leu Glu Lys Met Ser Leu Leu Lys
325 330 335
Ser Val Val Tyr Glu Ala Leu Arg Ile Glu Pro Pro Val Pro Phe Gln
340 345 350
Tyr Gly Lys Ala Lys Glu Asp Ile Val Ile Gln Ser His Asp Ser Ser
355 360 365
Phe Lys Ile Lys Lys Gly Glu Thr Ile Phe Gly Tyr Gln Pro Phe Ala
370 375 380
Thr Lys Asp Pro Lys Ile Phe Lys Asp Ser Glu Lys Phe Val Gly Asp
385 390 395 400
Arg Phe Val Gly Glu Glu Gly Glu Lys Leu Leu Lys Tyr Val Tyr Trp
405 410 415
Ser Asn Glu Arg Glu Thr Val Glu Pro Thr Ala Glu Asn Lys Gln Cys
420 425 430
Pro Gly Lys Asn Leu Val Val Leu Ile Gly Arg Ile Met Val Val Glu
435 440 445
Phe Phe Leu Arg Tyr Asp Thr Phe Thr Val Glu Val Ala Asp Leu Pro
450 455 460
Leu Gly Pro Ala Val Lys Phe Lys Ser Leu Thr Arg Ala Thr Asp Met
465 470 475 480
Val

<210> 8
<211> 1446
<212> DNA
<213> Cucumis melo

<400> 8
atggctactc cttcttctctc ctcccctgaa cttcctctca aaccaattcc cgggtggctat 60
ggcttcccct tcttcgggtcc catcaaagac cgttacgatt acttctattt ccaaggtaga 120
gacgaattct tccggttccc gattaccaaa tacaactcca ccgtcttccg cgccaacatg 180
ccaccggggc ccttcatttc ctccgattcc agagtcggtg tccttctcga tgccctcagt 240
tttctatcc tcttcgacac agccaaagtc gagaaacgca acattctcga cggaacttac 300
atgccctcct tgtccttcac cggcaacatt cgcacctgtg cttatttggg cccatcgga 360
acagagcact ctgttctcaa acgcctcttc ctctcctttc tcgcttcccg ccatgacagg 420
ttcatccctc tgtttcgaag ctcttctgtc gagatgtttg ttaagcttga agataaactt 480
tccgagaaaa agaagatcgc tgatttcaac tcgatcagcg attccatgtc gtttgattat 540
gttttccgtt tactctccga tggaaacctt gattcgaaat tagctgctga gggacctgga 600
atgttcgatc tgtggcttgt gtttcaactc gccccattgg cttccattgg cttcccaaaa 660
attttctctg tttttgaaga tctcgtcatt cacaccattc ccctgccttt cttcccagtc 720
aagagtgggt acaggaagct ttatgaagcg ttttactcct cttctggctc atttctagac 780
gaagcagaga aacaggggat agacaggag aaagcatgtc acaatttagt gtttctcgct 840
ggattcaacg catacggggg aatgaaagtc ctttttccca ctttactgaa atgggtcggc 900
accgccggcg aggatctcca ccggaactc gccgaggaag tcaggacaac cgtgaaggaa 960
gaagggggac tgactttctc cgccttggag aaaatgagtc tgctgaagtc cgtcgtgtac 1020
gaagcactca ggcgcgaacc gccggtgccg ttccagtacg ggaaagcgaa ggaggatata 1080
gtgattcaga gccacgattc ttctttcaag atcaaaaaag gggagacgat ttttggttat 1140
cagccgtttg ctactaaaga tccgaagatt tttaaggatt cggagaagtt cgtgggcgat 1200
aggttcgtgg gagaggaagg ggagaagctt ttgaagtatg ttactggtc aaatgagcgg 1260
gagacagtgg agccgacggc ggagaacaag cagtgtccgg ggaagaatct ggtggtgctg 1320
ataggttaga ttatggtggt ggaattcttc cttcgttatg atacgttcac cgtggaggtc 1380
gcagatttgc cgctgggtcc ggcagtgaag ttcaagtcct taaccagagc aaccgatatg 1440
gtttaa 1446

<210> 9
<211> 60
<212> PRT

<213> Psidium Guava

<400> 9

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Gly Glu Leu Leu Cys Gly Tyr Gln Lys Val Val Met Thr Asp Pro Lys
 1           5           10           15
Val Phe Asp Glu Pro Glu Ser Phe Asn Ser Asp Arg Phe Val Gln Asn
          20           25           30
Ser Glu Leu Leu Asp Tyr Leu Tyr Trp Ser Asn Gly Pro Gln Thr Gly
          35           40           45
Thr Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys
          50           55           60

```

<210> 10

<211> 61

<212> PRT

<213> Banana

<400> 10

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Gly Glu Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Arg Asp Pro Ala
 1           5           10           15
Val Phe Asp Asp Pro Glu Thr Phe Ala Pro Glu Arg Phe Met Gly Ser
          20           25           30
Gly Lys Glu Leu Leu Lys Tyr Val Phe Trp Ser Asn Gly Pro Glu Thr
          35           40           45
Gly Thr Pro Thr Pro Ala Asn Lys Gln Cys Ala Ala Lys
          50           55           60

```

<210> 11

<211> 62

<212> PRT

<213> Capsicum annum (green pepper)

<400> 11

```

Gly Glu Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Lys Asp Pro Lys
 1           5           10           15
Val Phe Asp Glu Pro Glu Lys Phe Met Leu Glu Arg Phe Thr Lys Glu
          20           25           30
Lys Gly Lys Glu Leu Leu Asn Tyr Leu Phe Trp Ser Asn Gly Pro Gln
          35           40           45
Thr Gly Ser Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys
          50           55           60

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<210> 12

<211> 62

<212> PRT

<213> Arabidopsis

<400> 12

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Gly Glu Met Leu Tyr Gly Tyr Gln Pro Leu Ala Thr Arg Asp Pro Lys
 1           5           10           15
Ile Phe Asp Arg Ala Asp Glu Phe Val Pro Glu Arg Phe Val Gly Glu
          20           25           30
Glu Gly Glu Lys Leu Leu Arg His Val Leu Trp Ser Asn Gly Pro Glu
          35           40           45
Thr Glu Thr Pro Thr Val Gly Asn Lys Gln Cys Ala Gly Lys
          50           55           60

```

<210> 13

<211> 61

<212> PRT

<213> Flax

<400> 13

Gly	Glu	Met	Leu	Phe	Gly	Tyr	Gln	Pro	Phe	Ala	Thr	Lys	Asp	Pro	Lys
1				5					10					15	
Ile	Phe	Asp	Arg	Pro	Glu	Glu	Phe	Val	Ala	Asp	Arg	Phe	Val	Gly	Glu
		20					25					30			
Gly	Val	Lys	Leu	Met	Glu	Tyr	Val	Met	Trp	Ser	Asn	Gly	Pro	Glu	Thr
		35				40					45				
Glu	Thr	Pro	Ser	Val	Ala	Asn	Lys	Gln	Cys	Ala	Gly	Lys			
50						55					60				

<210> 14

<211> 61

<212> PRT

<213> Guayule

<400> 14

Gly	Glu	Met	Leu	Phe	Gly	Tyr	Gln	Pro	Phe	Ala	Thr	Lys	Asp	Pro	Lys
1				5					10					15	
Val	Phe	Asp	Arg	Pro	Glu	Glu	Phe	Val	Ala	Asp	Arg	Phe	Val	Gly	Glu
		20					25					30			
Gly	Val	Lys	Leu	Met	Glu	Tyr	Val	Trp	Trp	Ser	Asn	Gly	Pro	Glu	Thr
		35				40					45				
Glu	Ser	Pro	Thr	Val	Glu	Asn	Lys	Gln	Cys	Ala	Gly	Lys			
50						55					60				

<210> 15

<211> 487

<212> PRT

<213> Cucumis melo

<220>

<221> VARIANT

<222> (1)...(487)

<223> Xaa = Any Amino Acid

<220>

<221> misc_feature

<222> (0)...(0)

<223> Accession No. AF081955

<400> 15

Met	Ala	Thr	Pro	Ser	Ser	Ser	Ser	Pro	Glu	Leu	Pro	Leu	Lys	Pro	Ile
1				5					10					15	
Pro	Gly	Gly	Tyr	Gly	Phe	Pro	Phe	Leu	Gly	Pro	Ile	Lys	Asp	Arg	Tyr
		20					25					30			
Asp	Tyr	Phe	Tyr	Phe	Gln	Gly	Arg	Asp	Glu	Phe	Phe	Glu	Arg	Ser	Arg
	35					40					45				
Ile	Thr	Lys	Tyr	Asn	Ser	Thr	Val	Phe	Arg	Ala	Asn	Met	Pro	Pro	Gly
50					55				60						
Pro	Phe	Ile	Ser	Ser	Asp	Ser	Arg	Val	Val	Val	Leu	Leu	Asp	Ala	Leu
65				70					75				80		
Ser	Phe	Pro	Ile	Leu	Phe	Asp	Thr	Ala	Lys	Val	Glu	Lys	Arg	Asn	Ile
			85					90					95		
Leu	Asp	Gly	Thr	Tyr	Met	Pro	Ser	Leu	Ser	Phe	Thr	Gly	Asn	Ile	Arg
			100					105					110		

```

Thr Cys Ala Tyr Leu Asp Pro Ser Glu Thr Glu His Ser Val Leu Lys
115 120 125
Arg Leu Phe Leu Ser Phe Leu Ala Ser Arg His Asp Arg Phe Ile Pro
130 135 140
Leu Phe Arg Ser Ser Leu Ser Glu Met Phe Val Lys Leu Glu Asp Lys
145 150 155 160
Leu Ser Glu Lys Lys Lys Ile Ala Asp Phe Asn Ser Ile Ser Asp Ser
165 170 175
Met Ser Phe Asp Tyr Val Phe Arg Leu Leu Ser Asp Gly Thr Pro Asp
180 185 190
Ser Lys Leu Ala Ala Glu Gly Pro Gly Met Phe Asp Leu Trp Leu Val
195 200 205
Phe Gln Leu Ala Pro Leu Ala Ser Ile Gly Leu Pro Lys Ile Phe Ser
210 215 220
Val Phe Glu Asp Leu Val Ile His Thr Ile Pro Leu Pro Phe Phe Pro
225 230 235 240
Val Lys Ser Gly Tyr Arg Lys Leu Tyr Glu Ala Phe Tyr Ser Ser Ser
245 250 255
Gly Ser Phe Leu Asp Glu Ala Glu Lys Gln Gly Ile Asp Arg Glu Lys
260 265 270
Ala Cys His Asn Leu Val Phe Leu Ala Gly Phe Asn Ala Tyr Gly Gly
275 280 285
Met Lys Val Leu Phe Pro Thr Leu Leu Lys Trp Val Gly Thr Ala Gly
290 295 300
Glu Asp Leu His Arg Lys Leu Ala Glu Glu Val Arg Thr Thr Val Lys
305 310 315 320
Glu Glu Gly Gly Leu Thr Phe Ser Ala Leu Glu Lys Met Ser Leu Leu
325 330 335
Lys Ser Val Val Tyr Glu Ala Leu Arg Ile Glu Pro Pro Val Pro Phe
340 345 350
Gln Tyr Gly Lys Ala Lys Glu Asp Ile Val Ile Gln Ser His Asp Ser
355 360 365
Ser Phe Lys Ile Lys Lys Gly Glu Thr Ile Phe Gly Tyr Gln Pro Phe
370 375 380
Ala Thr Lys Asp Pro Lys Ile Phe Lys Asp Ser Glu Lys Phe Val Gly
385 390 395 400
Asp Arg Phe Val Gly Glu Glu Gly Glu Lys Leu Leu Lys Tyr Val Tyr
405 410 415
Trp Ser Asn Glu Arg Glu Thr Val Glu Pro Thr Arg Xaa Asn Lys Gln
420 425 430
Cys Pro Gly Lys Asn Leu Val Val Leu Ile Gly Arg Ile Met Val Val
435 440 445
Glu Phe Phe Leu Arg Tyr Asp Thr Phe Thr Val Glu Val Ala Asp Leu
450 455 460
Pro Leu Gly Pro Ala Val Lys Phe Lys Ser Leu Thr Arg Ala Thr Asp
465 470 475 480

```

```

Met Leu Lys Leu Met Thr Asn
485

```

```

<210> 16
<211> 23
<212> DNA
<213> Artificial Sequence

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<220>
<221> misc_feature
<222> (1)...(23)
<223> n = A,T,C or G
      y = C or T(U)

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<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 16
ggtgagttgc tntgyggnta yca

23

<210> 17
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (1)...(20)
<223> n = A,T,C or G
y = A,T,C or G

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 17
ggtgagttgc tntgyggnta

20

<210> 18
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (1)...(20)
<223> n = A,T,C or G
y = C or T(U)

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 18
tggtcnaayg gnccrgagac

20

<210> 19
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (1)...(23)
<223> n = A,T,C or G
y = C or T(U)
r = A or G

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 19

tactggtcna ayggncnnsa rac

23

<210> 20
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (1)...(24)
<223> n = A,T,C or G
y = C or T(U)
r = A or G

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 20
aayaarcart gygcngctaa ggac

24

<210> 21
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (1)...(21)
<223> n = A,T,C or G
y = C or T(U)
r = A or G

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 21
aarcartgyg cngctaagga c

21

<210> 22
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 22
Gly Glu Leu Leu Cys Gly Tyr Gln
1 5

<210> 23
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 23
Gly Glu Leu Leu Cys Gly Tyr
1 5

<210> 24
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 24
Trp Ser Asn Gly Pro Glu Thr
1 5

<210> 25
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 25
Tyr Trp Ser Asn Gly Pro Glu Thr
1 5

<210> 26
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (1)...(8)
<223> Xaa = Any Amino Acid

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 26
Asn Lys Gln Cys Ala Ala Xaa Xaa
1 5

<210> 27
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> VARIANT
<222> (1)...(7)
<223> Xaa = Any Amino Acid

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 27

Lys Gln Cys Ala Ala Xaa Xaa
 1 5

<210> 28

<211> 32

<212> PRT

<213> Cucumis melo

<400> 28

Gly Glu Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Arg Asp Pro Lys
 1 5 10 15
 Val Phe Asp Glu Pro Glu Ala Phe Asn Pro Asp Arg Phe Arg Gly Glu
 20 25 30

<210> 29

<211> 32

<212> PRT

<213> Cucumis melo

<400> 29

Gly Glu Leu Leu Cys Gly Tyr Gln Pro Phe Ala Thr Arg Asp Pro Lys
 1 5 10 15
 Ile Phe Asp Arg Ala Asp Glu Phe Val Pro Asp Arg Phe Thr Gly Glu
 20 25 30

<210> 30

<211> 32

<212> PRT

<213> Cucumis melo

<400> 30

Gly Glu Leu Leu Cys Gly Tyr Gln Pro Phe Ala Thr Lys Asp Pro Lys
 1 5 10 15
 Ile Phe Lys Asp Ser Glu Lys Phe Val Gly Asp Arg Phe Val Gly Glu
 20 25 30

<210> 31

<211> 272

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
 synthetic construct

<400> 31

agctaattgac taattagttt tatcattttac agatagtgaa ttggttgatg cacggaagct 60
 gtggcggact gcgcacacat gattgagtagc ttgggggttat taaagtaatt tcgttgatgat 120
 ccacgtgggc ttatttttaatt ttgagatctc attgtgtgtt gtaaccacacc ggtcatctta 180
 ttttatagtt tgtttggttt ctcaattatg ctccaaattt taaaataaat aaataccatc 240
 ttcttctttt tactaaaaaa aaaaaaaaaa aa 272

<210> 32

<211> 480

<212> PRT

<213> Capsicum annum (green pepper)

<400> 32

Met Ile Pro Ile Met Ser Ser Ala Pro Leu Ser Thr Ala Thr Pro Ile
 1 5 10 15

Ser Leu Pro Val Arg Lys Ile Pro Gly Ser Tyr Gly Phe Pro Leu Leu
 20 25 30
 Gly Pro Leu Trp Asp Arg Leu Asp Tyr Asn Trp Phe Gln Lys Leu Pro
 35 40 45
 Asp Phe Phe Ser Lys Arg Val Glu Lys Tyr Asn Ser Thr Val Phe Arg
 50 55 60
 Thr Asn Val Pro Pro Cys Phe Pro Phe Phe Leu Gly Val Asn Pro Asn
 65 70 75 80
 Val Val Ala Val Leu Asp Val Lys Ser Phe Ala His Leu Phe Asp Met
 85 90 95
 Glu Ile Val Glu Lys Ala Asn Val Leu Val Gly Asp Phe Met Pro Ser
 100 105 110
 Val Val Tyr Thr Gly Asp Met Arg Val Cys Ala Tyr Leu Asp Thr Ser
 115 120 125
 Glu Pro Lys His Thr Gln Ile Lys Asn Phe Ser Leu Asp Ile Leu Lys
 130 135 140
 Arg Ser Ser Lys Thr Trp Val Pro Thr Leu Val Lys Glu Leu Asp Thr
 145 150 155 160
 Leu Phe Gly Thr Phe Glu Ser Asp Leu Ser Lys Ser Lys Ser Ala Ser
 165 170 175
 Leu Leu Pro Ala Leu Gln Lys Phe Leu Phe Asn Phe Phe Ser Leu Thr
 180 185 190
 Phe Leu Gly Ala Asp Pro Ser Ala Ser Pro Glu Ile Ala Asn Ser Gly
 195 200 205
 Phe Ala Tyr Leu Asp Ala Trp Leu Ala Ile Gln Leu Ala Pro Thr Val
 210 215 220

 Ser Ile Gly Val Leu Gln Pro Leu Glu Glu Ile Phe Val His Ser Phe
 225 230 235 240
 Ser Tyr Pro Tyr Phe Leu Val Arg Gly Gly Tyr Glu Lys Leu Ile Lys
 245 250 255
 Phe Val Lys Ser Glu Ala Lys Glu Val Leu Thr Arg Ala Gln Thr Asp
 260 265 270
 Phe Gln Leu Thr Glu Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu
 275 280 285
 Gly Phe Asn Ala Phe Gly Gly Phe Thr Ile Phe Leu Pro Thr Leu Leu
 290 295 300
 Gly Asn Leu Gly Asp Glu Lys Asn Ala Glu Met Gln Glu Lys Leu Arg
 305 310 315 320
 Lys Glu Val Arg Glu Lys Val Gly Thr Asn Gln Glu Asn Leu Ser Phe
 325 330 335
 Glu Ser Val Lys Glu Met Glu Leu Val Gln Ser Phe Val Tyr Glu Ser
 340 345 350
 Leu Arg Leu Ser Pro Pro Val Pro Ser Gln Tyr Ala Arg Ala Arg Lys
 355 360 365
 Asp Phe Met Leu Ser Ser His Asp Ser Val Tyr Glu Ile Lys Lys Gly
 370 375 380
 Glu Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Lys Asp Pro Lys Val
 385 390 395 400
 Phe Asp Glu Pro Glu Lys Phe Met Leu Glu Arg Phe Thr Lys Glu Lys
 405 410 415
 Gly Lys Glu Leu Leu Asn Tyr Leu Phe Trp Ser Asn Gly Pro Gln Thr
 420 425 430
 Gly Ser Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Ala Val
 435 440 445
 Thr Leu Thr Ala Ser Leu Ile Val Ala Tyr Ile Phe Gln Lys Tyr Asp
 450 455 460
 Ser Val Ser Phe Ser Ser Gly Ser Leu Thr Ser Val Lys Lys Ala Cys
 465 470 475 480

<211> 483
 <212> PRT
 <213> Banana

<400> 33

Met	Ala	Met	Met	Trp	Ser	Ser	Ala	Ser	Ala	Thr	Ala	Val	Thr	Thr	Leu
1				5					10					15	
Pro	Thr	Arg	Pro	Ile	Pro	Gly	Ser	Tyr	Gly	Pro	Pro	Leu	Val	Gly	Pro
			20					25					30		
Leu	Lys	Asp	Arg	Leu	Asp	Tyr	Phe	Trp	Phe	Gln	Gly	Pro	Glu	Thr	Phe
		35					40					45			
Phe	Arg	Ser	Arg	Met	Ala	Thr	His	Lys	Ser	Thr	Val	Phe	Arg	Thr	Asn
	50					55					60				
Met	Pro	Pro	Thr	Phe	Pro	Phe	Phe	Val	Gly	Val	Asp	Pro	Arg	Val	Val
65					70				75						80
Thr	Val	Leu	Asp	Cys	Thr	Ser	Phe	Ser	Ala	Leu	Phe	Asp	Leu	Glu	Val
			85						90					95	
Val	Glu	Lys	Lys	Asn	Ile	Leu	Ile	Gly	Asp	Tyr	Met	Pro	Ser	Leu	Ser
			100					105					110		
Phe	Thr	Gly	Asp	Thr	Arg	Val	Val	Val	Tyr	Leu	Asp	Pro	Ser	Glu	Pro
		115					120					125			
Asp	His	Ala	Arg	Val	Lys	Ser	Phe	Cys	Leu	Glu	Leu	Leu	Arg	Arg	Gly
	130					135					140				
Ala	Lys	Thr	Trp	Val	Ser	Phe	Leu	Ser	Asn	Leu	Asp	Val	Met	Leu	
145					150					155					160
Ala	Thr	Ile	Glu	Gln	Gly	Ile	Ala	Lys	Asp	Gly	Ser	Ala	Gly	Leu	Phe
			165						170					175	
Gly	Pro	Leu	Gln	Lys	Cys	Ile	Phe	Ala	Phe	Leu	Cys	Lys	Ser	Ile	Ile
			180					185					190		
Gly	Ala	Asp	Pro	Ser	Val	Ser	Pro	Asp	Val	Gly	Glu	Asn	Gly	Phe	Val
		195					200					205			
Met	Leu	Asp	Lys	Trp	Leu	Ala	Leu	Gln	Leu	Leu	Pro	Thr	Val	Lys	Val
	210					215					220				
Gly	Ala	Ile	Pro	Gln	Pro	Leu	Glu	Glu	Ile	Leu	Leu	His	Ser	Phe	Pro
225					230					235					240
Leu	Pro	Phe	Phe	Leu	Val	Ser	Arg	Asp	Tyr	Arg	Lys	Leu	Tyr	Glu	Phe
			245						250					255	
Val	Glu	Lys	Gln	Gly	Gln	Glu	Val	Val	Arg	Arg	Ala	Glu	Thr	Glu	His
			260					265					270		
Gly	Leu	Ser	Lys	His	Asp	Ala	Ile	Asn	Asn	Ile	Leu	Phe	Val	Leu	Gly
		275					280					285			
Phe	Asn	Ala	Phe	Gly	Gly	Phe	Ser	Val	Phe	Phe	Pro	Thr	Leu	Leu	Thr
	290					295					300				
Thr	Ile	Gly	Arg	Asp	Lys	Thr	Gly	Leu	Arg	Glu	Lys	Leu	Lys	Asp	Glu
305					310					315					320
Val	Arg	Arg	Val	Met	Lys	Ser	Arg	Gly	Glu	Lys	Arg	Pro	Ser	Phe	Glu
			325						330					335	
Thr	Val	Arg	Glu	Met	Glu	Leu	Val	Arg	Ser	Thr	Val	Tyr	Glu	Val	Leu
			340					345					350		
Arg	Leu	Asn	Pro	Pro	Val	Pro	Leu	Gln	Tyr	Gly	Arg	Ala	Arg	Thr	Asp
		355					360					365			
Phe	Thr	Leu	Asn	Ser	His	Asp	Ala	Ala	Phe	Lys	Val	Glu	Lys	Gly	Glu
	370					375					380				
Leu	Leu	Cys	Gly	Tyr	Gln	Pro	Leu	Val	Met	Arg	Asp	Pro	Ala	Val	Phe
385					390					395					400
Asp	Asp	Pro	Glu	Thr	Phe	Ala	Pro	Glu	Arg	Phe	Met	Gly	Ser	Gly	Lys
			405						410					415	
Glu	Leu	Leu	Lys	Tyr	Val	Phe	Trp	Ser	Asn	Gly	Pro	Glu	Thr	Gly	Thr
			420					425					430		
Pro	Thr	Pro	Ala	Asn	Lys	Gln	Cys	Ala	Ala	Lys	Asp	Tyr	Val	Val	Glu
		435					440						445		

Thr Ala Cys Leu Leu Met Ala Glu Ile Phe Tyr Arg Tyr Asp Glu Phe
 450 455 460
 Val Cys Ala Asp Asp Ala Ile Ser Val Thr Lys Leu Asp Arg Ala Arg
 465 470 475 480
 Glu Trp Glu

<210> 34
 <211> 21
 <212> DNA
 <213> Artificial Sequence

>220>
 <223> Description of Artificial Sequence:/Note =
 synthetic construct

<400> 34
 ggttatcagc cgctggtgat g 21

<210> 35
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:/Note =
 synthetic construct

<400> 35
 atgaaccgga ggcgtttaat ccg 23

<210> 36
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:/Note =
 synthetic construct

<400> 36
 acagagcgga cgagttcgta cct 23

<210> 37
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:/Note =
 synthetic construct

<400> 37
 aggattcgga gaagttcgtg ggc 23

<210> 38
 <211> 488
 <212> PRT
 <213> Psidium guava

<400> 38

Met	Ala	Arg	Val	Val	Met	Ser	Asn	Met	Ser	Pro	Ala	Met	Ser	Ser	Thr	1	5	10	15
Tyr	Pro	Pro	Ser	Leu	Ser	Pro	Pro	Ser	Ser	Pro	Arg	Pro	Thr	Thr	Leu	20	25	30	
Pro	Val	Arg	Thr	Ile	Pro	Gly	Ser	Tyr	Gly	Trp	Pro	Leu	Leu	Gly	Pro	35	40	45	
Ile	Ser	Asp	Arg	Leu	Asp	Tyr	Phe	Trp	Phe	Gln	Gly	Pro	Glu	Thr	Phe	50	55	60	
Phe	Arg	Lys	Arg	Ile	Glu	Lys	Tyr	Lys	Ser	Thr	Val	Phe	Arg	Ala	Asn	65	70	75	80
Val	Pro	Pro	Cys	Phe	Pro	Phe	Phe	Ser	Asn	Val	Asn	Pro	Asn	Val	Val	85	90	95	
Val	Val	Leu	Asp	Cys	Glu	Ser	Phe	Ala	His	Leu	Phe	Asp	Met	Glu	Ile	100	105	110	
Val	Glu	Lys	Ser	Asn	Val	Leu	Val	Gly	Asp	Phe	Met	Pro	Ser	Val	Lys	115	120	125	
Tyr	Thr	Gly	Asn	Ile	Arg	Val	Cys	Ala	Tyr	Leu	Asp	Thr	Ser	Glu	Pro	130	135	140	
Gln	His	Ala	Gln	Val	Lys	Asn	Phe	Ala	Met	Asp	Ile	Leu	Lys	Arg	Ser	145	150	155	160
Ser	Lys	Val	Trp	Glu	Ser	Glu	Val	Ile	Ser	Asn	Leu	Asp	Thr	Met	Trp	165	170	175	
Asp	Thr	Ile	Glu	Ser	Ser	Leu	Ala	Lys	Asp	Gly	Asn	Ala	Ser	Val	Ile	180	185	190	
Phe	Pro	Leu	Gln	Lys	Phe	Leu	Phe	Asn	Phe	Leu	Ser	Lys	Ser	Ile	Ile	195	200	205	
Gly	Ala	Asp	Pro	Ala	Ala	Ser	Pro	Gln	Val	Ala	Lys	Ser	Gly	Tyr	Ala	210	215	220	
Met	Leu	Asp	Arg	Trp	Leu	Ala	Leu	Gln	Leu	Leu	Pro	Thr	Ile	Asn	Ile	225	230	235	240
Gly	Val	Leu	Gln	Pro	Leu	Val	Glu	Ile	Phe	Leu	His	Ser	Trp	Ala	Tyr	245	250	255	
Pro	Phe	Ala	Leu	Val	Ser	Gly	Asp	Tyr	Asn	Lys	Leu	Tyr	Gln	Phe	Ile	260	265	270	
Glu	Lys	Glu	Gly	Arg	Glu	Ala	Val	Glu	Arg	Ala	Lys	Ala	Glu	Phe	Gly	275	280	285	
Leu	Thr	His	Gln	Glu	Ala	Ile	His	Asn	Leu	Leu	Phe	Ile	Leu	Gly	Phe	290	295	300	
Asn	Ala	Phe	Gly	Gly	Phe	Ser	Ile	Phe	Leu	Pro	Thr	Leu	Leu	Ser	Asn	305	310	315	320
Ile	Leu	Ser	Asp	Thr	Thr	Gly	Leu	Gln	Asp	Arg	Leu	Arg	Lys	Glu	Val	325	330	335	
Arg	Ala	Lys	Gly	Gly	Pro	Ala	Leu	Ser	Phe	Ala	Ser	Val	Lys	Glu	Met	340	345	350	
Glu	Leu	Val	Lys	Ser	Val	Val	Tyr	Glu	Thr	Leu	Arg	Leu	Asn	Pro	Pro	355	360	365	
Val	Pro	Phe	Gln	Tyr	Ala	Arg	Ala	Arg	Lys	Asp	Phe	Gln	Leu	Lys	Ser	370	375	380	
His	Asp	Ser	Val	Phe	Asp	Val	Lys	Lys	Gly	Glu	Leu	Leu	Cys	Gly	Tyr	385	390	395	400
Gln	Lys	Val	Val	Met	Thr	Asp	Pro	Lys	Val	Phe	Asp	Glu	Pro	Glu	Ser	405	410	415	
Phe	Asn	Ser	Asp	Arg	Phe	Val	Gln	Asn	Ser	Glu	Leu	Leu	Asp	Tyr	Leu	420	425	430	
Tyr	Trp	Ser	Asn	Gly	Pro	Gln	Thr	Gly	Thr	Pro	Thr	Glu	Ser	Asn	Lys	435	440	445	
Gln	Cys	Ala	Ala	Lys	Asp	Tyr	Val	Thr	Leu	Thr	Ala	Cys	Leu	Phe	Val	450	455	460	

Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser
465 470 475 480
Ile Thr Ala Val Glu Lys Ala Asn
485

<210> 39
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 39
ccgtcagcac caccaaattcc ttc 23

<210> 40
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 40
gaacagataa tccagcaggg c 21

<210> 41
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 41
ctgaaccgac cgcgactgtg t 21

<210> 42
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 42
tcgcccgtga accgatcagg ta 22

<210> 43
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 43

tccgcgtcgg ctccactgtc

20

<210> 44

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 44

tctcccacga acctatcgcc ca

22

<210> 45

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 45

gccatggcct ccattgtcat tccttc

26

<210> 46

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 46

ggaattctta gtgatggtga tggatgatgga aacttgcttt cttag

45

<210> 47

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 47

gcatatggct actccttctt cctcctc

27

<210> 48

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 48

catcgattta gtgatggtga tggatgatgat tagtcattag ctttaa

46

<210> 49

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 49

atgaattcgg taccgaggat cctttttttt tttttttt

39

<210> 50

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:/Note =
synthetic construct

<400> 50

atgaattcgg taccgaggat c

21

<210> 51

<211> 1596

<212> DNA

<213> Cucumis melo

<400> 51

atgtcctcca	ttgtcattcc	ttctcttcaa	cctcacttgc	gattcccatc	ctcgcaagaa	60
acgcctcaaa	gatctcgttc	tagagttggc	ttcgtttcca	tacgtccaat	ctacgccacc	120
gacggagttt	cttccctcgtc	ttcttccctc	cttcaagtgc	cgcagcggat	tggttcgcgcg	180
ccggaaccca	ccaagcttcc	tttgaggaag	gttcccgggtg	attatggggc	accgatgttt	240
ggggcggtga	aggacagaca	tgattatttt	tataatcagg	ggagggaaga	gtatttgaaa	300
tctcgaatgc	tccggtatga	atccactgtg	tatagaacta	atatgccgcc	gggtccattt	360
atcacttccg	attcccagat	tggtgtttta	ctcgacggga	agagttttcc	tggtcttttc	420
gaccattcta	aagttgagaa	gaaagatctc	tttatcggaa	cttacatgcc	tgtaacagag	480
ctcaccggcg	gttacagggt	gctttcttat	attgacccat	ctgagcccga	tcacgctaag	540
cttaaacagt	tgattttctt	tctcctcaag	caccgcccgg	ataaaattat	gccggaattt	600
cactctactt	tttctgagct	attcgagact	ctggaaaagg	atttggctgc	tgctggtaga	660
gcagagtaca	atgcttccgg	tgaacaagcg	gogtttaatt	tcttggctcg	gtctcttttc	720
ggcgctgatc	cggtagattc	caaattgggt	cgcgatgcgc	cgaaattgat	cgcgaaatgg	780
gtcttattcc	agcttggccc	tggtctgagt	ctcggcctcc	ccaaggctcg	cgaggagctt	840
ctcctccgca	cggtccggct	ccccccggcg	ttgattaaag	ccgattaccg	tcggttgtac	900
gacttctttt	acaagtcgtc	ggaggcgggtg	tttgaggagg	cggatagatt	gggaatttcg	960
agggaagaag	cttgctacaa	cttgctattc	acaacttggt	ttaattcatt	tgaggggatg	1020
aagatctttt	tccccaatat	gataaaatgg	atcggccgag	ccggagtga	tctccacacc	1080
cgactagcac	gggagattcg	tactgccgta	aaagccaacg	gcgggaaaat	cacgatgggg	1140
gctatggaac	agatgccgct	gatgaaatca	gtggtgtacg	aagcgttaag	aatcgagccg	1200
ccggttccgg	ttcagtacgg	tcgggcaaaag	aaagaccttg	tggtggaaag	ccacgacgcg	1260
gctttcgaga	tcaaagaagg	agaagtgatt	tgtgggtatc	agccattcgc	aacaagagat	1320

ccgaaaatct	tcgacagagc	ggacgagttc	gtacctgac	ggttcacggg	cgaggggtgag	1380
gagctttctca	aacacgtcat	atggtcaaac	ggaccggaaa	cacagtcgcc	gtcgggttcag	1440
aacaagcagt	gcgcaggaaa	agacttcac	gtcttcacat	ctcggcttct	cgtcgttgaa	1500
cttttcctcc	gttacgactc	cttcgacac	gaagcctcaa	acactccgtt	aggtgccgcc	1560
gtcacccgtaa	cctccctaaa	gaaagcaagt	ttctaa			1596

<210> 52

<211> 465

<212> PRT

<213> Cucumis melo

<400> 52

Asn	Asp	Met	Ser	Ser	Ile	Val	Ile	Pro	Ser	Leu	Gln	Pro	His	Leu	Arg	
1				5					10					15		
Phe	Pro	Ser	Ser	Gln	Glu	Thr	Pro	Gln	Arg	Ser	Arg	Ser	Arg	Val	Gly	
			20					25					30			
Phe	Val	Ser	Ile	Arg	Pro	Ile	Tyr	Ala	Thr	Asp	Gly	Val	Ser	Ser	Ser	
		35					40					45				
Ser	Ser	Ser	Ser	Leu	Gln	Val	Pro	Gln	Arg	Ile	Val	Ser	Pro	Pro	Glu	
	50					55					60					
Pro	Thr	Lys	Leu	Pro	Leu	Arg	Lys	Val	Pro	Gly	Asp	Tyr	Gly	Pro	Pro	
65					70					75					80	
Met	Phe	Gly	Ala	Leu	Lys	Asp	Arg	His	Asp	Tyr	Phe	Tyr	Asn	Gln	Gly	
			85						90					95		
Arg	Glu	Glu	Tyr	Leu	Lys	Ser	Arg	Met	Leu	Arg	Tyr	Glu	Ser	Thr	Val	
			100					105					110			
Tyr	Arg	Thr	Asn	Met	Pro	Pro	Gly	Pro	Phe	Ile	Thr	Ser	Asp	Ser	Arg	
		115					120					125				
Val	Val	Val	Leu	Leu	Asp	Gly	Lys	Ser	Phe	Pro	Val	Leu	Phe	Asp	His	
	130					135					140					
Ser	Lys	Val	Glu	Lys	Lys	Asp	Leu	Phe	Thr	Gly	Ala	Val	Phe	Glu	Glu	
145					150					155					160	
Ala	Asp	Arg	Leu	Gly	Ile	Ser	Arg	Glu	Glu	Ala	Cys	His	Asn	Leu	Leu	
				165					170					175		
Phe	Thr	Thr	Cys	Phe	Asn	Ser	Phe	Gly	Gly	Met	Lys	Ile	Phe	Phe	Pro	
		180						185					190			
Asn	Met	Ile	Lys	Trp	Ile	Gly	Arg	Ala	Gly	Val	Asn	Leu	His	Thr	Arg	
	195					200					205					
Leu	Ala	Arg	Glu	Ile	Arg	Thr	Ala	Val	Lys	Ala	Asn	Gly	Gly	Lys	Ile	
	210				215						220					
Thr	Met	Gly	Ala	Met	Glu	Gln	Met	Pro	Leu	Met	Lys	Ser	Val	Val	Tyr	
225					230					235					240	
Glu	Ala	Leu	Arg	Ile	Glu	Pro	Pro	Val	Pro	Val	Gln	Tyr	Gly	Arg	Ala	
			245						250					255		
Lys	Lys	Asp	Leu	Val	Val	Glu	Ser	His	Asp	Ala	Ala	Phe	Glu	Ile	Lys	
		260						265					270			
Glu	Gly	Glu	Val	Ile	Cys	Gly	Tyr	Gln	Pro	Phe	Ala	Thr	Arg	Asp	Pro	
	275						280					285				
Lys	Ile	Phe	Asp	Arg	Ala	Asp	Glu	Leu	Val	Pro	Asp	Arg	Phe	Thr	Gly	
	290					295					300					
Glu	Gly	Glu	Glu	Leu	Leu	Thr	Tyr	Met	Pro	Val	Thr	Glu	Leu	Thr	Gly	
305					310					315					320	
Gly	Tyr	Arg	Val	Leu	Ser	Tyr	Ile	Asp	Pro	Ser	Glu	Pro	Asp	His	Ala	
			325						330					335		
Lys	Leu	Lys	Gln	Leu	Ile	Phe	Phe	Leu	Leu	Lys	His	Arg	Arg	Asp	Lys	
		340						345					350			
Ile	Met	Pro	Glu	Phe	His	Ser	Thr	Phe	Ser	Glu	Leu	Phe	Glu	Thr	Leu	
	355						360					365				
Glu	Lys	Asp	Leu	Ala	Ala	Ala	Gly	Arg	Ala	Glu	Tyr	Asn	Ala	Ser	Gly	
	370					375					380					

Glu Gln Ala Ala Phe Asn Phe Leu Ala Arg Ser Leu Phe Gly Ala Asp
 385 390 395 400
 Pro Val Asp Ser Lys Leu Gly Arg Asp Ala Pro Lys Leu Ile Ala Lys
 405 410 415
 Trp Val Leu Phe Gln Leu Gly Pro Val Leu Ser Leu Gly Leu Pro Lys
 420 425 430
 Val Val Glu Glu Leu Leu Leu Arg Thr Val Arg Leu Pro Pro Ala Leu
 435 440 445
 Ile Lys Ala Asp Tyr Arg Arg Leu Tyr Asp Phe Phe Tyr Lys Ser Ser
 450 455 460
 Glu
 465

<210> 53
 <211> 468
 <212> PRT
 <213> Flax

<400> 53

Met Ala Ser Ser Ala Leu Asn Asn Leu Val Ala Val Asn Pro Asn Thr
 1 5 10 15
 Leu Ser Pro Ser Pro Lys Ser Thr Pro Leu Pro Asn Thr Phe Ser Asn
 20 25 30
 Leu Arg Arg Val Ser Ala Phe Arg Pro Ile Lys Ala Ser Leu Phe Gly
 35 40 45
 Asp Ser Pro Ile Lys Ile Pro Gly Ile Thr Ser Gln Pro Pro Pro Ser
 50 55 60
 Ser Asp Glu Thr Thr Leu Pro Ile Arg Gln Ile Pro Gly Asp Tyr Gly
 65 70 75 80
 Leu Pro Gly Ile Gly Pro Ile Gln Asp Arg Leu Asp Tyr Phe Tyr Asn
 85 90 95
 Gln Gly Arg Glu Glu Phe Phe Lys Ser Arg Leu Gln Lys Tyr Lys Ser
 100 105 110
 Thr Val Tyr Arg Ala Asn Met Pro Pro Gly Pro Phe Ile Ala Ser Asn
 115 120 125
 Pro Arg Val Ile Val Leu Leu Asp Ala Lys Ser Phe Pro Val Leu Phe
 130 135 140
 Asp Met Ser Lys Val Glu Lys Lys Asp Leu Phe Thr Gly Ser Val Leu
 145 150 155 160
 Asp Glu Ala Glu Gln Ser Gly Ile Ser Arg Asp Glu Ala Cys His Asn
 165 170 175
 Ile Leu Phe Ala Val Cys Phe Asn Ser Trp Gly Gly Phe Lys Ile Leu
 180 185 190
 Phe Pro Ser Leu Met Lys Trp Ile Gly Arg Ala Gly Leu Glu Leu His
 195 200 205
 Thr Lys Leu Ala Gln Glu Ile Arg Ser Ala Ile Gln Ser Thr Gly Gly
 210 215 220
 Gly Lys Val Thr Met Ala Ala Met Glu Gln Met Pro Leu Met Lys Ser
 225 230 235 240
 Val Val Tyr Glu Thr Leu Arg Ile Glu Pro Pro Val Ala Leu Gln Tyr
 245 250 255
 Gly Lys Ala Lys Lys Asp Phe Ile Leu Glu Ser His Glu Ala Ala Tyr
 260 265 270
 Gln Val Lys Glu Gly Glu Met Leu Phe Gly Tyr Gln Pro Phe Ala Thr
 275 280 285
 Lys Asp Pro Lys Ile Phe Asp Arg Pro Glu Glu Phe Val Ala Asp Arg
 290 295 300
 Phe Val Gly Glu Gly Val Lys Leu Met Thr Tyr Met Pro Ser Thr Glu
 305 310 315 320
 Leu Thr Gly Gly Tyr Arg Ile Leu Ser Tyr Leu Asp Pro Ser Glu Pro
 325 330 335

Asn His Thr Lys Leu Lys Gln Leu Leu Phe Asn Leu Ile Lys Asn Arg
 340 345 350
 Arg Asp Tyr Val Ile Pro Glu Phe Ser Ser Ser Phe Thr Asp Leu Cys
 355 360 365
 Glu Val Val Glu Tyr Asp Leu Ala Thr Lys Gly Lys Ala Ala Phe Asn
 370 375 380
 Asp Pro Ala Glu Gln Ala Phe Asn Phe Leu Ser Arg Ala Phe Phe
 385 390 395 400
 Gly Val Lys Pro Ile Asp Thr Pro Leu Gly Lys Asp Ala Pro Ser Leu
 405 410 415
 Ile Ser Lys Trp Val Leu Phe Asn Leu Ala Pro Ile Leu Ser Val Gly
 420 425 430
 Leu Pro Lys Glu Val Glu Glu Ala Thr Leu His Ser Val Arg Leu Pro
 435 440 445
 Pro Leu Leu Val Gln Asn Asp Tyr His Arg Leu Tyr Glu Phe Phe Thr
 450 455 460
 Ser Ala Ala Gly
 465

<210> 54
 <211> 405
 <212> PRT
 <213> Guayule

<400> 54
 Met Asp Pro Ser Ser Lys Pro Leu Arg Glu Ile Pro Gly Ser Tyr Gly
 1 5 10 15
 Ile Pro Phe Phe Gln Pro Ile Lys Asp Arg Leu Glu Tyr Phe Tyr Gly
 20 25 30
 Thr Gly Gly Arg Asp Glu Tyr Phe Arg Ser Arg Met Gln Lys Tyr Gln
 35 40 45
 Ser Thr Val Phe Arg Ala Asn Met Pro Pro Gly Pro Phe Val Ser Ser
 50 55 60
 Asn Pro Lys Val Ile Val Leu Leu Asp Ala Lys Ser Phe Pro Ile Leu
 65 70 75 80
 Phe Asp Val Ser Lys Val Glu Lys Lys Asp Leu Phe Thr Gly Pro Val
 85 90 95
 Met Glu Gln Ala Glu Lys Leu Gly Val Pro Lys Asp Glu Ala Val His
 100 105 110
 Asn Ile Leu Phe Ala Val Cys Phe Asn Thr Phe Gly Gly Val Lys Ile
 115 120 125
 Leu Phe Pro Asn Thr Leu Lys Trp Ile Gly Val Ala Gly Glu Asn Leu
 130 135 140
 His Thr Gln Leu Ala Glu Glu Ile Arg Gly Ala Ile Lys Ser Tyr Gly
 145 150 155 160
 Asp Gly Asn Val Thr Leu Glu Ala Ile Glu Gln Met Pro Leu Thr Lys
 165 170 175
 Ser Val Val Tyr Glu Ser Leu Arg Ile Glu Pro Pro Val Pro Pro Gln
 180 185 190
 Tyr Gly Lys Ala Lys Ser Asn Phe Thr Ile Glu Ser His Asp Ala Thr
 195 200 205
 Phe Glu Val Lys Lys Gly Glu Met Leu Phe Gly Tyr Gln Pro Phe Ala
 210 215 220
 Thr Lys Asp Pro Lys Val Phe Asp Arg Pro Glu Glu Phe Val Pro Asp
 225 230 235 240
 Arg Phe Val Gly Asp Gly Glu Ala Leu Leu Thr Tyr Met Pro Ser Thr
 245 250 255
 Lys Leu Thr Gly Ala Tyr Arg Val Leu Ser Tyr Leu Asp Pro Ser Glu
 260 265 270
 Pro Arg His Ala Gln Leu Lys Asn Leu Leu Phe Phe Met Leu Lys Asn
 275 280 285

Ser Ser Asn Arg Val Ile Pro Gln Phe Glu Thr Thr Tyr Thr Glu Leu
 290 295 300
 Phe Glu Gly Leu Glu Ala Glu Leu Ala Lys Asn Gly Lys Ala Ala Phe
 305 310 315 320
 Asn Asp Val Gly Glu Gln Ala Ala Phe Arg Phe Leu Gly Arg Ala Tyr
 325 330 335
 Phe Asn Ser Asn Pro Glu Glu Thr Lys Leu Gly Thr Ser Ala Pro Thr
 340 345 350
 Leu Ile Ser Ser Trp Val Leu Phe Asn Leu Ala Pro Thr Leu Asp Leu
 355 360 365
 Gly Leu Pro Trp Phe Leu Gln Glu Pro Leu Leu His Thr Phe Arg Leu
 370 375 380
 Pro Ala Phe Leu Ile Lys Ser Thr Tyr Asn Lys Leu Tyr Asp Tyr Phe
 385 390 395 400
 Gln Ser Val Ala Thr
 405

<210> 55
 <211> 448
 <212> PRT
 <213> Arabidopsis

<400> 55
 Met Ala Ser Ile Ser Thr Pro Phe Pro Ile Ser Leu His Pro Lys Thr
 1 5 10 15
 Val Arg Ser Lys Pro Leu Lys Phe Arg Val Leu Thr Arg Pro Ile Lys
 20 25 30
 Ala Ser Gly Ser Glu Thr Pro Asp Leu Thr Val Ala Thr Arg Thr Gly
 35 40 45
 Ser Lys Asp Leu Pro Ile Arg Asn Ile Pro Gly Asn Tyr Gly Leu Pro
 50 55 60
 Ile Val Gly Pro Ile Lys Asp Arg Trp Asp Tyr Phe Tyr Asp Gln Gly
 65 70 75 80
 Ala Glu Glu Phe Phe Lys Ser Arg Ile Arg Lys Tyr Asn Ser Thr Val
 85 90 95
 Tyr Arg Val Asn Met Pro Pro Gly Ala Phe Ile Ala Glu Asn Pro Gln
 100 105 110
 Val Val Ala Leu Leu Asp Gly Lys Ser Phe Pro Val Leu Phe Asp Val
 115 120 125
 Asp Lys Val Glu Lys Lys Asp Leu Phe Thr Gly Glu Ile Leu Val Glu
 130 135 140
 Ala Asp Lys Leu Gly Ile Ser Arg Glu Glu Ala Thr His Asn Leu Leu
 145 150 155 160
 Phe Ala Thr Ser Phe Asn Thr Trp Gly Gly Met Lys Ile Leu Phe Pro
 165 170 175
 Asn Met Val Lys Arg Ile Gly Pro Gly Gly His Gln Val His Asn Arg
 180 185 190
 Leu Ala Glu Glu Ile Arg Ser Val Ile Lys Ser Asn Gly Gly Glu Leu
 195 200 205
 Thr Met Gly Ala Ile Glu Lys Met Glu Leu Thr Lys Ser Val Val Tyr
 210 215 220
 Glu Cys Leu Arg Phe Glu Pro Pro Val Thr Ala Gln Tyr Gly Arg Ala
 225 230 235 240
 Lys Lys Asp Leu Val Ile Glu Ser His Asp Ala Ala Phe Lys Val Lys
 245 250 255
 Ala Gly Glu Met Leu Tyr Gly Tyr Gln Pro Leu Ala Thr Arg Asp Pro
 260 265 270
 Lys Ile Phe Asp Arg Ala Asp Glu Phe Val Pro Glu Arg Phe Val Gly
 275 280 285

Glu Glu Gly Glu Lys Leu Leu Thr Tyr Met Pro Ser Thr Glu Leu Thr
 290 295 300
 Gly Gly Tyr Arg Ile Leu Ser Tyr Leu Asp Pro Ser Glu Pro Lys His
 305 310 315 320
 Glu Lys Leu Lys Asn Leu Leu Phe Phe Leu Leu Lys Ser Ser Asn Arg
 325 330 335
 Ile Phe Pro Glu Phe Gln Ala Thr Tyr Ser Glu Leu Phe Asp Ser Leu
 340 345 350
 Glu Lys Glu Ala Phe Pro Leu Arg Glu Ser Gly Phe Arg Arg Phe Gln
 355 360 365
 Arg Arg Asn Arg Leu Leu Phe Leu Gly Ser Ser Phe Leu Arg Asp Glu
 370 375 380
 Ser Arg Arg Tyr Lys Leu Lys Ala Asp Ala Pro Gly Leu Ile Thr Lys
 385 390 395 400
 Trp Val Leu Phe Asn Leu His Pro Leu Leu Ser Ile Gly Leu Pro Arg
 405 410 415
 Val Ile Glu Glu Pro Leu Ile His Thr Phe Ser Leu Pro Pro Ala Leu
 420 425 430
 Val Lys Ser Asp Tyr Gln Arg Leu Tyr Glu Phe Leu Arg Ile Arg Gly
 435 440 445

<210> 56

<211> 1715

<212> DNA

<213> Cucumis melo

<220>

<221> misc_feature

<222> 1283

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